Part IV. Plant Assessment Form

For use with "Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands" by the California Exotic Pest Plant Council and the Southwest Vegetation Management Association

Printable version, February 28, 2003

Instructions

For each species assessed, complete and return the Plant Assessment Form including the three tables, Worksheet A, and the appropriate state ecological types worksheet (either Worksheet B, C, or D). All light blue cells should be filled in for each of these tables and worksheets. This "printable" version of the Plant Assessment Form is formatted to allow an evaluator to fill in blanks by hand (you may need extra paper for listing documentation). This form is provided to assist the evaluator during the assessment process. The "electronic" version of this form is preferred for final submissions to the list committee.

Step 1: Complete Table 1with information on the species being assessed and the individual(s) performing the assessment. Enter the information in the light blue spaces below.

Table 1. Species and Evaluator Information

Species name (Latin binomial)**:**	
Synonyms:	
Common names:	
Evaluation date (mm/dd/yy)**:**	
Evaluator #1 Name/Title:	
Affiliation:	
Phone numbers:	
Email address:	
Address:	
Evaluator #2 Name/Title:	
Affiliation:	
Phone numbers:	
Email address:	
Address:	

Section below for list committee use—please leave blank

List committee members:	
Committee review date:	
List date:	
Re-evaluation date(s):	

Step 2a: Complete the first portion of Table 2 by circling the appropriate score to each of the thirteen criteria questions in Part II.

For question 2.4, first complete Worksheet A located below Table 3.

For questions 3.1 and 3.2, first complete the appropriate ecological type worksheet for your state (either Worksheet B, C, or D found below Table 3) by following the instructions in Section 3, then respond to questions 3.1 and 3.2.

Table 2. Criteria, Section, and Overall Scores

1.1	Impact on abiotic ecosystem processes	**A B C D U**	Doc'n level:
1.2	Impact on plant community	**A B C D U**	Doc'n level:
1.3	Impact on higher trophic levels	**A B C D U**	Doc'n level:
1.4	Impact on genetic integrity	**A B C D U**	Doc'n level:

"Impact"

Enter four characters from Q1.1-1.4 below:

_____

Use matrix to determine the score; circle below:

Section 1 Score:
A B C D U

2.1	Role of anthropogenic and natural disturbance	**A B C D U**	Doc'n level:
2.2	Local rate of spread with no management	**A B C D U**	Doc'n level:
2.3	Recent trend in total area infested within state	**A B C D U**	Doc'n level:
2.4	Innate reproductive potential	**A B C D U**	Doc'n level:
2.5	Potential for human-caused dispersal	**A B C D U**	Doc'n level:
2.6	Potential for natural long-distance dispersal	**A B C D U**	Doc'n level:
2.7	Other regions invaded	**A B C D U**	Doc'n level:

"Invasiveness"

For questions at left, recall that an A gets 3 points, a B gets 2, a C gets 1, and a D or U gets=0. Enter the sum total of all points for Q2.1-2.7 below:

_____ **pts**

Use matrix to determine score and circle below:

Section 2 Score:
A B C D U

3.1	Ecological amplitude	**A B C D U**	Doc'n level:
3.2	Distribution	**A B C D U**	Doc'n level:

"Distribution"

Use matrix; circle score:

Section 3 Score:
A B C D U

"Plant Score"

Using matrix, determine the Overall Score and Alert Status from the three section scores and circle them below:

Overall Score:
High Med Low
Not listed

Alert Status:
None Alert

Something you should know.

This section is to be completed by the list committee when they determine a vital piece of information about the species needs to be communicated to the end user of the categorized list.
Examples include: (1) a rare community is infested, (2) a particular ecological type is >50% infested but is currently restricted geographically, and (3) a plant occupies many ecological types (A or B for 3.1), but none greater than 20% (C or D for 3.2) which results in Section 3 score of B thus, not qualifying it for Alert status.

(Delete the flag if nothing warrants using it.)

Step 2b: In Table 3 document key information for each particular criteria question, summarize the rationale for the score assigned, and cite the sources of information. Citations should provide complete bibliographic information for published materials, and contact information and observation dates for anecdotal reports (see samples below). Identify major gaps in information that could be critical for improving the accuracy of answering the particular question for this species, and indicate whether out-of-state information was used as a basis for documenting ecological impact (enter this information in the "Rationale" section for each question). Enter text directly into the light blue cells. Attach additional sheets, formatted similarly, to supplement information and documentation that cannot fit into Table 3.

Sample citations:

Bossard, Carla. 1991. The role of habitat disturbance, seed predation, and ant dispersal on establishment of the exotic shrub *Cytisus scoparius* in California. *American Midland Naturalist* 126: 1-13.

The Nature Conservancy. 2002. *Ailanthus altissima*. Accessed online Nov. 11 at http://tncweeds.ucdavis.edu/esadocs/ailaalti.html.

DiTomaso, Joe. 2002. From observations in Yolo County, 1990 to present. Personal communication, May 16. 530/321-4321, ditomaso@weeds.org.

Table 3. Documentation

Question 1.1 Impact on abiotic ecosystem processes	*Score:* *Doc'n Level:*
Identify ecosystem processes impacted:	
Rationale:	
Sources of information:	
Question 1.2 Impact on plant community composition, structure, and interactions	*Score:* *Doc'n Level:*
Identify type of impact or alteration:	
Rationale:	
Sources of information:	
Question 1.3 Impact on higher trophic levels	*Score:* *Doc'n Level:*
Identify type of impact or alteration:	
Rationale:	
Sources of information:	

Question 1.4 Impact on genetic integrity	*Score:*	*Doc'n Level:*
Identify impacts:		
Rationale:		
Sources of information:		
Question 2.1 Role of anthropogenic and natural disturbance in establishment	*Score:*	*Doc'n Level:*
Describe role of disturbance:		
Rationale:		
Sources of information:		
Question 2.2 Local rate of spread with no management	*Score:*	*Doc'n Level:*
Describe rate of spread:		
Rationale:		
Sources of information:		
Question 2.3 Recent trend in total area infested within state	*Score:*	*Doc'n Level:*
Describe trend:		
Rationale:		
Sources of information:		
Question 2.4 Innate reproductive potential	*Score:*	*Doc'n Level:*
Describe key reproductive characteristics:		
Rationale:		
Sources of information:		
Question 2.5 Potential for human-caused dispersal	*Score:*	*Doc'n Level:*
Identify dispersal mechanisms:		
Rationale:		
Sources of information:		
Question 2.6 Potential for natural long-distance dispersal	*Score:*	*Doc'n Level:*
Identify dispersal mechanisms:		
Rationale:		
Sources of information:		
Question 2.7 Other regions invaded	*Score:*	*Doc'n Level:*
Identify other regions:		

Rationale:
Sources of information:
Question 3.1 Ecological amplitude *Score:* *Doc'n Level:*
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known:
Rationale:
Sources of information:
Question 3.2 Distribution *Score:* *Doc'n Level:*
Describe distribution:
Rationale:
Sources of information:

Worksheet A

Complete this worksheet to answer Question 2.4.

Reaches reproductive maturity in 2 years or less	**Yes No 1 pt.**
Dense infestations produce >1,000 viable seed per square meter	**Yes No 2 pt.**
Populations of this species produce seeds every year.	**Yes No 1 pt.**
Seed production sustained for 3 or more months within a population annually	**Yes No 1 pt.**
Seeds remain viable in soil for three or more years	**Yes No 2 pt.**
Viable seed produced with *both* self-pollination and cross-pollination	**Yes No 1 pt.**
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	**Yes No 1 pt.**
Fragments easily and fragments can become established elsewhere	**Yes No 2 pt.**
Resprouts readily when cut, grazed, or burned	**Yes No 1 pt.**
	Total pts: __ Total unknowns: __
	Score : ___

Note any related traits:

Complete the worksheet that corresponds to your state using the letter codes and instructions in Section 3.

Worksheet B - Arizona Ecological Types

(*sensu* Brown 1994 and Brown et al. 1998)

Major Ecological Types	Minor Ecological Types	Code*
Dunes	dunes	
Scrublands	Great Basin montane scrub	
	southwestern interior chaparral scrub	
Desertlands	Great Basin desertscrub	
	Mohave desertscrub	
	Chihuahuan desertscrub	
	Sonoran desertscrub	
Grasslands	alpine and subalpine grassland	
	plains and Great Basin shrub-grassland	
	semi-desert grassland	
Freshwater Systems	lakes, ponds, reservoirs	
	rivers, streams	
Non-Riparian Wetlands	Sonoran wetlands	
	southwestern interior wetlands	
	montane wetlands	
	playas	
Riparian	Sonoran riparian	
	southwestern interior riparian	
	montane riparian	
Woodlands	Great Basin conifer woodland	
	Madrean evergreen woodland	
Forests	Rocky Mountain and Great Basin subalpine conifer forest	
	montane conifer forest	
Tundra (alpine)	tundra (alpine)	

* A. means >50% of type occurrences are invaded; B means >20% to 50%; C. means >5% to 20%; D. means present but ≤5%; U. means unknown (unable to estimate percentage of occurrences invaded).

Step 3: Determine each section score by using the matrices below. Record each section score in Table 2.

This matrix for Section 1 addresses all potential combinations of answers for questions 1.1-1.4, although many combinations are unlikely in the real world. The scoring system is conservative. When a question is scored as "U" for unknown, the overall scoring for that section assumes the most conservative scenario, which is that additional information would result in a "D" score for that question. Species therefore have potential to be scored higher for "Impact" in the future when additional information is available.

If three or more questions receive a score of "U," Section 1 receives a score of "U."

Section 1 Scoring Matrix				
Q 1.1	***Q 1.2***	***Q 1.3***	***Q 1.4***	**Score**
A	*A*	*Any*	*Any*	**A**
A	*B*	*A,B*	*Any*	**A**
A	*B*	*C,D,U*	*Any*	**B**
A	*C,D,U*	*Any*	*Any*	**B**
B	*A*	*A*	*Any*	**A**
B	*A*	*B*	*A*	**A**
B	*A*	*B,C*	*B-D,U*	**B**
B	*A*	*C,D,U*	*A*	**A**
B	*A*	*C,D,U*	*B-D,U*	**B**
B	*B*	*A*	*A*	**A**
B	*C,D,U*	*A*	*A*	**B**
B	*B-D*	*A*	*B-D,U*	**B**
B	*B-D*	*B-D,U*	*Any*	**B**
B	*D,U*	*C,D,U*	*A-B*	**B**
B	*D,U*	*C,D,U*	*C,D,U*	**C**
C-D,U	*A*	*A*	*Any*	**A**
C	*B*	*A*	*Any*	**B**
C	*A,B*	*B-D,U*	*Any*	**B**
C	*C,D,U*	*Any*	*Any*	**C**
D	*A,B*	*B*	*Any*	**B**
D	*A,B*	*C,D,U*	*Any*	**C**
D	*C*	*Any*	*Any*	**C**
D	*D,U*	*Any*	*Any*	**D**
U	*A*	*B,C*	*Any*	**B**
U	*A*	*D,U*	*Any*	**B***
U	*B,C*	*A,B*	*Any*	**B**
U	*B,C*	*C,D,U*	*Any*	**C**
U	*D*	*Any*	*Any*	**D**
U	*U*	*Any*	*Any*	**U**

***AZ committee decision to have this combination score (tri-state development committee did not define this combination).**

For Section 2: Use the information and matrix below to calculate the section score based on answers to questions 2.1 – 2.7.

# questions answered A: ___ x 3 = ____ pts
# questions answered B: ___ x 2 = ____ pts
# questions answered C: ___ x 1 ____ pts
# questions answered D: ___
# questions answered U: ___
Total = ____ pts

Section 2 Scoring Matrix	
Total points	**Score**
17-21	**A**
11-16	**B**
5-10	**C**
0-4	**D**
More than two U's	**U**

Section 3 Scoring Matrix		
Q 3.1	***Q 3.2***	**Score**
A	*A, B*	**A**
A	*C,D,U*	**B**
B	*A*	**A**
B	*B,C*	**B**
B	*D*	**C**
C	*A,B*	**B**
C	*C,D*	**C**
D	*A*	**B**
D	*B,C*	**C**
D	*D*	**D**
A,B	*U*	**C**
C,D	*U*	**D**
U	*U*	**U**

Step 4: Determine the overall rank and alert status from the section scores recorded in Table 2 using the matrix below. Record the overall score and alert status in Table 2.

Overall Scoring Matrix				
Sec. 1	**Sec. 2**	**Sec. 3**	**Overall Score**	**Alert Status**
A	*A,B*	*A,B*	**High**	
A	*A,B*	*C,D*	**High**	**Alert**
A	*C,D*	*A-D*	**Med**	
B	*A,B*	*A,B*	**Med**	
B	*A,B*	*C,D*	**Med**	**Alert**
B	*C,D*	*A-D*	**Low**	
C	*A*	*A,B*	**Med**	
C	*A*	*C,D*	**Low**	
C	*B*	*A*	**Med**	
C	*B*	*B-D*	**Low**	
C	*C*	*A-D*	**Low**	
D	*A-D*	*A-D*	**Not listed**	

Step 5: For each of the thirteen questions, select the appropriate level of documentation below used to answer each of the criteria's questions as recorded in Table 3. Record the level of documentation in Table 2.

Reviewed scientific publication—the response to this question is supported by published, peer-reviewed scientific evidence. [Abbreviate as "Rev. Sci. Pub."]

Other published material—the response to this question is supported by reports, non-peer-reviewed documents, etc. [Abbreviate as "Other pub."]

Observational—the response to this question is supported by little published information, but there are confirmed, not-yet-published observations by a qualified professional. [Abbreviate as "Obs."]

Anecdotal—the response to this question is supported only by unconfirmed, anecdotal information. [Abbreviate as "Anec."]

No Information [Abbreviate as "No Info"]

Step 6: Return the Plant Assessment Form.
Please email filled in forms as an attachment to the appropriate contact for your state listed below. If necessary, materials can be mailed to the postal addresses. For further information, refer to websites listed.

Arizona

Dana Backer
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1510 East Ft. Lowell Rd.
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Please refer all comments regarding this document to Peter Warner at pwarn@parks.ca.gov or pwarner@mcn.org.